



Gen AI Training Course Outline

Day 1: Introduction of Gen AI

1.1 Introduction of Gen AI

- What is Gen AI?
- Evolution of Gen AI
- How does Gen AI work?
- Types of Gen AI
- Examples of Gen AI in use today
- Benefits and challenges of Gen AI

1.2 The Fundamentals of Gen AI & Foundation Models

- What is the Foundation Model?
- Types of Foundation Models (table with 5+ parameters)
- How do large language models work?
- What is GPU and their role in AI & ML
- Capabilities and limitations of large language models
- How are large language models used in Gen AI?
- Training a foundation model
- Customizing a foundation mode

1.3 LLM Models

- Open source
- Closed source
- Popular models
- Multimodels
- Models based on the use case Resources
- LLM Models

Day 2 - Prompt Engineering & RAG

2.1 Prompt Engineering

- Zero shot
- Few shot
- One shot
- Chain of thoughts
- Tree of thought

2.2 Retrieval-Augmented Generation (RAG)

- 5W1H on RAG
- Basic Data Cleaning
- Vector Database
- Knowledge Graph Database
- Chunking
- Embedding
- LLM Models
- Trulens

2.3 Fine Tuning

- 5W1H on FT (Who, What, When, Where, Why, How)
- PFET
- LoRA
- QLoRA
- Prefix tuning
- Prompt tuning
- Fine Tuning by multiple methods

Day 3 - Tech Stack to Build any Project in Gen AI

3.1 Programming Languages and Frameworks

- Front end: Streamlit (React or Angular)
- Back end: Langchain

3.2 Data Storage and Processing Tools

- Database: Chroma or FAISS (for Vector DB)

3.3 Machine Learning or Gen AI or LLM Models Libraries

- Open Source

3.4 Pricing

3.5 Cloud Computing Platforms

- Deployment: Hugging Face Spaces or AWS or GCP or Azure

3.6 Determine the Efficiency/Accuracy of Gen AI Apps

- Trulens

Day 4: Building LLM apps using OpenSource LLM Frameworks

4.1 Introduction & Overview of various LLM Frameworks like Langchain & Llama Index

Day 5: BeyondLLM

5.1 Overview and Getting Started with BeyondLLM

5.2 Understanding Core Components

5.3 Building your own use case

Day 6: Building LLM apps with No Code Tools

6.1 Introduction to no-code LLM tools

6.2 Introduction to GenAI stack

6.3 Understanding the components

6.4 Building a Stack

6.5 Using Custom Components

6.6 Using GenAI stack REST APIs

6.7 Use Cases

Day 7 - Challenges, Mitigation, Tools & Gen AI into Company

7.1 Potential Challenges and Mitigations

- Ethical considerations
- Data privacy and security concerns
- Bias in Gen AI models
- How to mitigate the challenges of Gen AI

7.2 Tools Available in the Market

- Popular Gen AI development tools
- How to choose the right tools for your project
- Coding tools
- Product tools
- HR tools
- Common Tools

7.3 How to Incorporate Gen AI into Any Company

- Find use cases
- Expense sheet
- Top 4 Pricing API models
- Top 4 Open Source API models
- Benefits and drawbacks of pricing vs open source API models
- The cost of developing and deploying Gen AI
- Factors that affect the cost of Gen AI
- How to reduce the cost of Gen AI
- How companies are using Gen AI to improve their businesses
- Examples of successful Gen AI integrations